

WHAT IS CLAIMED IS:

1. A method for transmitting a plurality of data frames in a mobile telecommunications system, each data frame having a frame sequence number and a succeeding data stream, wherein a data stream within at least one data frame is segmented into a plurality of data segments when retransmission is requested, the method comprising the steps of:

providing a frame sequence number of a requested frame to each of said data segments;

providing a byte number corresponding to a start byte of each data segment to each of said data segments;

providing an indicator indicating whether or not each data segment is the last segment to each of said data segments; and

providing a data stream to each of said data segments.

2. A device for transmitting a plurality of frames, each frame comprised of a frame sequence number and a succeeding data stream, comprising:

a forward resequencing buffer for storing data streams of transmitted frames together with associated frame sequence numbers, and for retransmitting requested frames;

a first register for storing a frame sequence number indicating a retransmission-requested frame;

a second register for storing a byte sequence number indicating a start byte of a frame segment obtained by segmenting a data stream of the retransmission-requested frame into a transmittable size; and

a controller for reading the data stream in the retransmission-requested frame from the forward resequencing buffer, segmenting the read data stream into frame

segments of the transmittable size, and adding the frame sequence number and the byte sequence number corresponding to a start byte of each frame segment to each frame segment before transmission.

5       3.     The device as claimed in claim 2, wherein the controller adds an indicator to each frame segment indicating whether each frame segment is the last frame segment of the retransmission-requested frame.

10      4.     The device as claimed in claim 2, wherein the controller adds to each frame segment information indicating a size of each frame segment.

15      5.     A method for receiving frames, each frame comprised of a frame sequence number and a succeeding data stream, in a communication system, the method comprising the steps of:

- 20       a) sending a retransmission request for a frame that failed to be received;
- b) receiving one or more frame segments, said frame segments resulting from segmenting the retransmission-requested frame;
- c) determining whether the one or more frame segments are from the retransmission-requested frame, depending on a frame sequence number included in the one or more frame segments;
- d) examining byte sequence numbers of the data stream included in the one or more frame segments, when the one or more frame segments are the retransmission-requested frames;
- e) repeating the steps c) and d), until it is determined that the last frame segment out of the frame segments is received; and
- f) arranging normally received frames and the frame segments according to the sequence numbers.

6. A method for segmenting a data frame into frame segments, said data frame having a frame sequence number and data, the method comprising the steps of:

segmenting data within the data frame into one or more data segments;

5 placing each of the one or more data segments in a corresponding frame segment;

providing a frame sequence number of the data frame to each of the frame segments;

providing a byte number corresponding to a start byte of each of the one or more data segment to the frame segment containing the corresponding data segment; and

10 providing an indicator in each frame segment, said indicator indicating whether the data segment in the frame segment is the last data segment of the one or more data segments of the data frame.